

Analysis of Early Retirement Incentive Program (ERIP) for the **Barnstable County** Retirement System



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INTRODUCTION

The Public Employee Retirement Administration Commission (PERAC) is pleased to release our analysis of Section 66 of Chapter 188 of the Acts of 2010, *An Act Relative to Municipal Relief* which established a local option to allow cities and towns to offer an Early Retirement Incentive Program (ERIP) to employees. The ERIP was adopted by the Towns of Barnstable, Chatham and Yarmouth. Paragraph (f) of the law directed municipalities that established an ERIP to provide PERAC with the necessary information to be able to complete an analysis of the costs and liabilities attributable to the additional benefits payable in accordance with the Act.

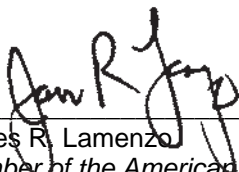
The law provides that retirement allowances of members who participated in the ERIP be determined by adding up to 3 years to the member's age and/or creditable service (any combination in full years up to a maximum of 3 years). A member's enhanced benefit cannot exceed 80% of the average rate of annual compensation used in his/her calculation. Members retiring under the program had effective dates of retirement between April 8, 2011 and August 15, 2011.

This study was based on active member data as of December 31, 2010, and additional data for retirees who were eligible for and elected the ERIP. All data was supplied by the Retirement Board. We previously reviewed the December 31, 2010 data as part of the 2011 data submission process. We reviewed each member's data as both an active and retired member for reasonableness and consistency.

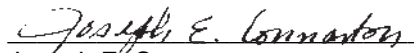
We used the investment return assumption used in the most recent actuarial valuation report. For all other assumptions, we used the standard PERAC assumption set for performing actuarial valuations as of January 1, 2010. These assumptions are the same as the assumptions used in your last actuarial valuation performed as of January 1, 2010. The assumptions are shown at the back of this report.

We believe this report represents an accurate appraisal of the costs and liabilities of the ERIP for the retirement system. This analysis was performed in accordance with generally accepted actuarial principles and practices relating to pension plans. In our opinion, the actuarial assumptions used in this report are reasonable, related to plan experience and expectations, and represent our best estimate of anticipated experience.

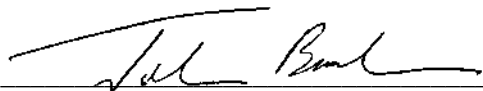
Respectfully submitted,
Public Employee Retirement Administration Commission



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Dated: January 20, 2012

COST ANALYSIS

Methodology

The results of our analysis for each governmental unit that accepted the ERIP are presented on the following pages. Participating units had the option to limit the number of years and/or the number of members eligible to retire under the program. Such limitations are noted.

Our analysis of the cost of the ERIP consisted of measuring the change in both the actuarial accrued liability and normal cost before and after the application of the enhanced benefit. All participants in the ERIP had to forego their right to accrued sick and vacation time. All monies that would have been paid to the participant are instead to be paid to the retirement system to reduce the additional pension liability resulting from this program. The amortization of the increase in actuarial accrued liability and the normal cost form the basis of the impact of the ERIP on the plan's funding schedule. These items are discussed below.

Actuarial Accrued Liability

We measured the increase in actuarial accrued liability due to the incentive for each member who retired under the program. First, we valued the group as active members on January 1, 2010 (including any changes to reflect service adjustments made after January 1, 2010, such as service buy-backs). This calculation determines the liability attributable to the employees who elected the ERIP exclusive of the additional liability associated with the incentive program. These results were then brought forward on an actuarial basis to reflect the estimated accrued liability as of the average retirement date : May 15, 2011 for the Town of Barnstable, June 1, 2011 for the Town of Chatham and July 1, 2011 for the Town of Yarmouth.

We then valued the same group as retirees after the application of the ERIP. These liabilities were determined as of May 15, 2011 for the Town of Barnstable, June 1, 2011 for the Town of Chatham and July 1, 2011 for the Town of Yarmouth.

The accrued liability for the members as retirees including the ERIP less the accrued liability for the members as active employees excluding the ERIP represents the increase in accrued liability due to the ERIP. The money that would have been paid to participants in the ERIP for accrued sick and vacation time is used to reduce the additional liability. This net increase will be amortized over 10 years in equal installments and shall separately be identified in the system's funding schedule. We assumed the amortization of the increase in liability would begin with the FY13 appropriation.

Normal Cost

The increase in actuarial liability is somewhat offset by a decrease in normal cost. The normal cost, or actuarial cost for the current year for active members, is shown as of January 1, 2010. There is no normal cost for retired members. Any decrease in normal cost for a retiring member would only be expected to last for a few years (the period the member would have remained in active service if the ERIP were not implemented).

COST ANALYSIS BY GOVERNMENTAL UNIT *(continued)*

Town of Barnstable

| Actives | |
|----------------------|----------|
| Number of Members | 6 |
| Average Service | 26.4 |
| Average Compensation | \$70,638 |

| Retirees | |
|------------------------|----------|
| Number of Members | 6 |
| Average Age | 59.1 |
| Average Annual Benefit | \$47,321 |

| | As Actives | As Retirees |
|--|-------------|-------------|
| Total Regular Compensation | \$423,800 | N/A |
| Total Normal Cost | \$52,100 | N/A |
| Employee Contributions | \$32,500 | N/A |
| Net Employer Normal Cost | \$19,600 | N/A |
| Actuarial Liability (as of May 15, 2011) | \$2,531,900 | \$3,276,100 |

| | |
|---|-----------|
| Increase in Actuarial Liability (as of May 15, 2011) | \$744,200 |
| Less: Accrued sick and vacation time paid to system | \$43,300 |
| Net Increase in Unfunded Actuarial Liability (as of May 15, 2011) | \$700,900 |
| Amortization of Increase for FY13 (assumed payments July 1 & January 1) | |
| 10-year level basis | \$107,500 |

The above results provide a measure of the increase in actuarial accrued liability and decrease in normal cost due to the ERIP. The actuarial liability and normal cost were determined as active members (before the implementation of the ERIP) and as retired members (with the enhanced ERIP benefit).

For active members, average service reflects service as of January 1, 2010 but excludes any enhanced service provided by the ERIP. For retired members, the averages are as of May 15, 2011.

COST ANALYSIS BY GOVERNMENTAL UNIT *(continued)*

Town of Chatham

| Actives | |
|----------------------|----------|
| Number of Members | 8 |
| Average Service | 26.0 |
| Average Compensation | \$59,375 |

| Retirees | |
|------------------------|----------|
| Number of Members | 8 |
| Average Age | 62.1 |
| Average Annual Benefit | \$45,521 |

| | As Actives | As Retirees |
|--|-------------|-------------|
| Total Regular Compensation | \$475,000 | N/A |
| Total Normal Cost | \$47,300 | N/A |
| Employee Contributions | \$32,000 | N/A |
| Net Employer Normal Cost | \$15,300 | N/A |
| Actuarial Liability (as of June 1, 2011) | \$2,811,300 | \$3,515,300 |

| | |
|---|-----------|
| Increase in Actuarial Liability (as of June 1, 2011) | \$704,000 |
| Less: Accrued sick and vacation time paid to system | \$33,600 |
| Net Increase in Unfunded Actuarial Liability (as of June 1, 2011) | \$670,400 |
| Amortization of Increase for FY13 (assumed payments July 1 & January 1) | |
| 10-year level basis | \$102,500 |

The above results provide a measure of the increase in actuarial accrued liability and decrease in normal cost due to the ERIP. The actuarial liability and normal cost were determined as active members (before the implementation of the ERIP) and as retired members (with the enhanced ERIP benefit).

For active members, average service reflects service as of January 1, 2010 but excludes any enhanced service provided by the ERIP. For retired members, the averages are as of June 1, 2011.

COST ANALYSIS BY GOVERNMENTAL UNIT *(continued)*

Town of Yarmouth

| Actives | |
|----------------------|----------|
| Number of Members | 6 |
| Average Service | 24.5 |
| Average Compensation | \$69,427 |

| Retirees | |
|------------------------|----------|
| Number of Members | 6 |
| Average Age | 62.4 |
| Average Annual Benefit | \$44,344 |

| | As Actives | As Retirees |
|--|-------------|-------------|
| Total Regular Compensation | \$416,600 | N/A |
| Total Normal Cost | \$43,700 | N/A |
| Employee Contributions | \$31,700 | N/A |
| Net Employer Normal Cost | \$12,000 | N/A |
| Actuarial Liability (as of July 1, 2011) | \$2,361,200 | \$2,746,400 |

| | |
|---|-----------|
| Increase in Actuarial Liability (as of July 1, 2011) | \$385,200 |
| Less: Accrued sick and vacation time paid to system | 13,300 |
| Net Increase in Unfunded Actuarial Liability (as of July 1, 2011) | 371,900 |
| Amortization of Increase for FY13 (assumed payments July 1 & January 1) | |
| 10-year level basis | \$56,500 |

The above results provide a measure of the increase in actuarial accrued liability and decrease in normal cost due to the ERIP. The actuarial liability and normal cost were determined as active members (before the implementation of the ERIP) and as retired members (with the enhanced ERIP benefit).

For active members, average service reflects service as of January 1, 2010 but excludes any enhanced service provided by the ERIP. For retired members, the averages are as of July 1, 2011.

IMPACT ON FUNDING SCHEDULE

A complete funding schedule including the ERIP has not been developed as part of this report. Our FY13 appropriation letter reflects an increase for these units from the amount shown in the current funding schedule to reflect the amortization of the increase in actuarial liability.

Amortization of the Increase in Actuarial Accrued Liability

The bottom section of the cost page for each governmental unit shows the amortization of the increase in actuarial accrued liability on a ten-year level basis. This basis requires an annual funding amount of \$266,500 from FY13 through FY22. The allocation to each governmental unit is summarized below. Future system appropriations will reflect these unit costs.

| Governmental Unit | Level, 10-year Effective FY13 |
|--------------------------|--------------------------------------|
| Town of Barnstable | \$107,500 |
| Town of Chatham | \$102,500 |
| Town of Yarmouth | \$56,500 |
| Total | \$266,500 |

The legislation required that the increased cost be amortized on a 10-year level basis in equal installments.

Decrease in Normal Cost

There is a decrease in employer normal cost for all units of approximately \$46,900 in FY13 for retiring members since normal cost accrues only for active members. This decrease is only expected to last a few years (the period the member would have remained in service if the ERIP were not implemented). This decrease will be partially offset by the normal cost for any members hired to replace retiring members. Any decrease in employer normal cost will be reflected in future actuarial valuations and corresponding funding schedules. We have not estimated the normal cost for new hires as part of this study.

ACTUARIAL ASSUMPTIONS

| | |
|--|--|
| Actuarial Cost Method | Entry Age Normal |
| Investment Return | 8.0% per year |
| Interest Rate credited to the Annuity Savings Fund | 3.5% per year |
| Assumed rate of Cost of Living Increases (COLA) | 3% per year (on the first \$12,000 of the allowance) |
| Mortality | RP- 2000 Healthy Annuitant table (gender distinct). This is applicable to both pre-retirement and post-retirement benefits. For disabled members, the mortality rate is assumed to be in accordance with the RP- 2000 Table (gender distinct) set forward 3 years for males. It is assumed that 55% of pre-retirement deaths are job-related for Group 1 and 2 members and 90% are job-related for Group 4 members. For members retired under an Accidental Disability, 40% of deaths are assumed to be from the same cause as the disability. |

Salary Increase Based on an analysis of past experience. Annual rates are shown below.

| Service | Group 1 | Group 2 | Group 4 |
|---------|---------|---------|---------|
| 0 | 7.00% | 7.00% | 8.00% |
| 1 | 6.50% | 6.50% | 7.50% |
| 2 | 6.50% | 6.50% | 7.00% |
| 3 | 6.00% | 6.00% | 6.50% |
| 4 | 6.00% | 6.00% | 6.00% |
| 5 | 5.50% | 5.50% | 6.00% |
| 6 | 5.50% | 5.50% | 5.50% |
| 7 | 5.00% | 5.00% | 5.50% |
| 8 | 5.00% | 5.00% | 5.25% |
| 9 | 4.75% | 5.00% | 5.25% |
| 10+ | 4.75% | 5.00% | 5.25% |

ACTUARIAL ASSUMPTIONS *(continued)*

Retirement

| Age | Groups 1 & 2 | | Group 4 |
|-----|--------------|--------|---------|
| | Male | Female | |
| 45 | 0.000 | 0.000 | 0.010 |
| 46 | 0.000 | 0.000 | 0.010 |
| 47 | 0.000 | 0.000 | 0.010 |
| 48 | 0.000 | 0.000 | 0.010 |
| 49 | 0.000 | 0.000 | 0.010 |
| 50 | 0.010 | 0.015 | 0.020 |
| 51 | 0.010 | 0.015 | 0.020 |
| 52 | 0.010 | 0.020 | 0.020 |
| 53 | 0.010 | 0.025 | 0.050 |
| 54 | 0.020 | 0.025 | 0.075 |
| 55 | 0.020 | 0.055 | 0.150 |
| 56 | 0.025 | 0.065 | 0.100 |
| 57 | 0.025 | 0.065 | 0.100 |
| 58 | 0.050 | 0.065 | 0.100 |
| 59 | 0.065 | 0.065 | 0.150 |
| 60 | 0.120 | 0.050 | 0.200 |
| 61 | 0.200 | 0.130 | 0.200 |
| 62 | 0.300 | 0.150 | 0.250 |
| 63 | 0.250 | 0.125 | 0.250 |
| 64 | 0.220 | 0.180 | 0.300 |
| 65 | 0.400 | 0.150 | 1.000 |
| 66 | 0.250 | 0.200 | 1.000 |
| 67 | 0.250 | 0.200 | 1.000 |
| 68 | 0.300 | 0.250 | 1.000 |
| 69 | 0.300 | 0.200 | 1.000 |
| 70 | 1.000 | 1.000 | 1.000 |

ACTUARIAL ASSUMPTIONS *(continued)*

Disability Based on an analysis of past experience. Sample annual rates are shown below.

| Age | <u>Groups 1 & 2</u> | Group 4 |
|-----|-------------------------|---------|
| 20 | 0.00010 | 0.0010 |
| 30 | 0.00030 | 0.0030 |
| 40 | 0.00101 | 0.0030 |
| 50 | 0.00192 | 0.0125 |
| 60 | 0.00280 | 0.0085 |

Based on an analysis of past experience. It is also assumed that the percentage of job-related disabilities is 55% for Groups 1 & 2 and 90% for Group 4.

Withdrawal

Based on analysis of past experience. Annual rates are based on years of service. Sample annual rates for Groups 1 and 2 are shown below. For Group 4 members the rate is 0.015 each year for service up to and including 10 years. No withdrawal is assumed thereafter.

Groups 1 & 2

| Service | Groups 1 & 2 |
|---------|--------------|
| 0 | 0.150 |
| 5 | 0.076 |
| 10 | 0.054 |
| 15 | 0.033 |
| 20 | 0.020 |

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